

TWO NEW SPECIES OF BROCHYMENA (PENTATOMIDAE, HETEROPTERA) FROM ARIZONA.

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During the season of 1937 the author had the opportunity to collect at a number of known stations in Arizona and New Mexico. One of the richest places yet found is the Santa Rita Range in Santa Cruz County just south of Tucson; here a number of day's collecting was done in the company of Mr. J. R. de la Torre-Bueno, to whom thanks are due for guidance through this relatively wild country. During this period two very distinctly new species of *Brochymena* turned up. To be sure they appeared in small numbers but their characters are so distinct that there can be no question as to their validity as new species. One of these I am naming *Brochymena lineata* and the other *B. dilata*. Dr. Ball of the University of Arizona has been kind enough to give me two additional specimens of the first of these two species; he states that he procured these from the trunks of the southwestern white-leaf oak *Quercus hypoleuca* Engelm. in the vicinity of Sonoita and Williamson's Valley. The name *B. lineata* is applied to this species because there are at least two very distinct ivory white or pale testaceous narrow bands running over the posterior half of the pronotum and basal corners of the scutellum. The name *B. dilata* is given to the second species on two counts, first because the abdomen is expanded laterally more so than in other species of the genus giving an almost orbicular outline to the body and secondly because in the male there are two ventrally and medially dilated lobes on the genital cup.

Since writing the following descriptions I have had the pleasure of examining species of *Brochymena* in the collections of the United States National Museum and Mr. H. G. Barber of that museum's staff. I can report that in the National Museum collection there are six specimens of *B. dilata* and one of *B. lineata*, while in Mr. Barber's personal collection I found two specimens of each species.

***Brochymena lineata* n. sp.**

Form elliptical; neither conspicuously depressed nor convex, dorsally or ventrally; color in general aspect pale, being a mixture of ivory, testaceous, fuscous and black; punctures varying from minute ferruginous pin-point dots to deep, corroded black pits, the latter disposed in broad bands on the pronotum

and scutellum. Head testaceous; disc between the eyes somewhat convex, in front of them gradually undulating and flattened; diameter behind the eyes just about equal to that in front of them so that eyes appear to protrude; sides of head from eyes to subapical teeth feebly converging, very nearly parallel, their edges weakly concave; subapical teeth in female small and rectangular to obtuse, in male more obtuse and less conspicuous; juga converge to an acute apex; diameter across subapical teeth about three times as long as distance between that line and apex of head; punctures mostly ferruginous, some nigro-fuscous ones found at base of tylus and surrounding area. Edge of bucculae strongly sinuate and ending anteriorly in a very prominent, latero-divergent, acute tooth; the edges of the bucculae and margins of the juga, at least in the females, ivory and smooth, in the males testaceous. First and second antennal segments reddish-fuscous, others deeper fuscous to piceous; *the basal fifth of segment four distinctly flattened or compressed and more smooth than the remaining portion of the segment*; segments two to five subequal in length, with segment five shortest; in one male specimen segment two is distinctly longer than the others. Median length of the pronotum equal to that of head; diameter across humeri about one sixth greater than median length; disc irregularly undulating with a median, weak, ivory or pale carina on front half; the carina becomes obsolete on hind half; *two prominent smooth ivory colored, irregular, longitudinal bars on posterior half*, each one about midway between the midline and the respective humerus; between the carina and each of these ivory bands appears a *broadish subrectangular area of large deep, corroded pits, nigro-fuscous to piceous*, some of these having smooth ivory or pale borders; several shallowly depressed or excavated areas on disc; calli somewhat raised and irregularly smooth; edges of pronotum weakly convex-arcuate bearing six to eight ivory, conical teeth which blend with the dull yellow edge of the disc; humeri subtriangular, slightly tumid, the edges with four or five retrorse serrations. Propleuron with an arcuate sulcus just underneath the margin of pronotum; this sulcus subtended by a punctured area, at least no appreciable amount of smooth showing; the punctures more or less evenly distributed and of medium size; propleuron becoming darker laterally toward sulcus and paler toward coxal region; the sulcus appears as a dark fuscous groove. Scutellum long and narrow for this genus; basal third somewhat tumid with a broadish median carina continued to apical third; basal angles

in the form of deep, corroded, nigro-fuscous pits; *medial to these a short ivory or pale bar, impunctate and continuous with the similar one on the pronotum; this pale bar followed medially by a broad, rugose band of nigro-fuscous pits which extend posterior to the claval edge of scutellum*; this area in turn followed medially by a very irregular longitudinal pale stripe that becomes punctured with ferruginous and fuscous pits toward the inner edge; apical third of scutellum paler, with smooth areas becoming larger; the scutellar carina with an irregular row of large fuscous punctures. Elytra pale to testaceous with *very uniform fuscous punctures evenly distributed and tending to coalesce toward the apical end*; the highest point on the elytra usually impunctate and pale. Membrane clear with rich ferruginous vermiculate and arborescent markings. Edges of the abdomen not excessively explanate, rather less so than is common for this genus, the outline being elliptical and the abdomen somewhat tapering posteriorly; greatest width of the entire body across humeri; *greatest width of abdomen distinctly less than that across humeri*; abdomen alternated with testaceous and fuscous, the narrow band each side of the incisure being testaceous. The venter bright testaceous with incisures between segments distinctly dark fuscous, as are also the stigmata, a thin line behind them and a smooth spot near them; punctures on the venter are of medium size, fuscous to reddish and irregularly scattered, tending to concentrate laterally; sixth ventral of the female with five to seven fuscous blotches, one median and two or three laterally across segment; basal valves of female genital plates with an inner border of fuscous or dark. Femora dull testaceous with fuscous maculations arranged in longitudinal vittae which coalesce distally and there interrupted by a partially complete pale annulus; tibiae conspicuously annulated; the exterior surface of the pale band with a small dark blotch, smallest on the fore tibia and becoming increasingly larger on the middle and hind. Proximal two joints of the tarsi distinctly pale above, otherwise fuscous; claws and remaining joint fuscous. Beak reaching past the middle of the third ventral. Metasternal osteole and canal small though conspicuous because of contrasting color; osteolar cone and crater ivory or very pale, auricle deep fuscous almost piceous, narrowed at base and spatulate distally; evaporating area small, its lateral edge cutting obliquely across the surrounding disc, area pale, testaceous; surrounding regions darker. Male genital cup small for this genus, *rounded, without any conspicuous outgrowths*

or lateral expansions; the lateral corners do not reach even close to the ends of the sixth ventral segment; posterior edge across cup, excluding a shallow median excavation, provided with a very shallow, obsolescent sulcus; pubescence very short and fine, not silky; proctiger very wide and testaceous-fuscous to fuscous; claspers almost piceous and smallish.

Holotype: Female, Patagonia, Sonoita Creek, Santa Cruz Co., Ariz. 7/23/37. Collection of the American Museum of Natural History.

Allotype: Male, Patagonia, Sonoita Creek, Santa Cruz Co., Ariz. 7/23/37. Collection of author.

Paratypes: one female Williamson Valley (E. D. Ball, 6/22/35); one female, Fort Wingate, N. M., 3/15/08, the latter in the collection of the Academy of Natural Sciences of Philadelphia.

B. lineata appears to be related to *B. cariosa* Stål. It differs from the latter however in the following respects: *B. lineata* has much finer and more even punctation and less contrasting markings except for the white lines on the thorax and scutellum; the specimen is, on the whole, somewhat more elliptical, *i.e.*, proportionately slightly longer in relation to its width and lighter and more gray in general color. The two species are alike in the shapes of their heads and the relative lengths of their antennal segments, with segment two being somewhat longer than segment three in both species; the male genital cup of *B. cariosa* is similar to that of *B. lineata* but is larger and coarser in all aspects.

Brochymena dilata n. sp.

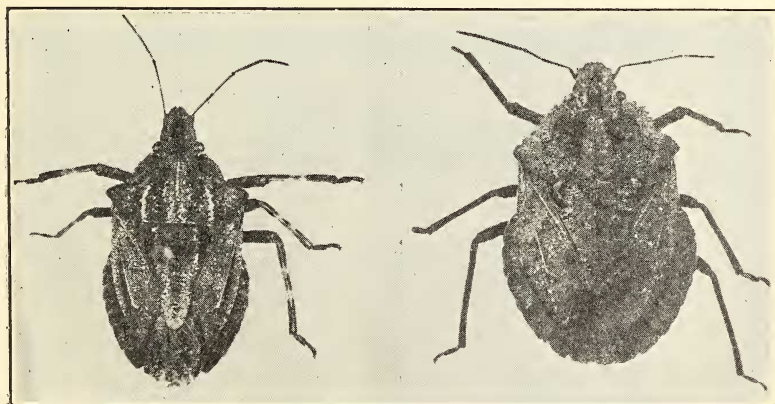
Form broadly oval, somewhat depressed on top and slightly convex beneath; dorsal surface at least not as convex as in allied species; color in general aspect somewhat cinereous, being a mixture of a dull testaceous background mixed with fuscous and blackish punctures of various sizes, each of the smaller ones provided with a whitish bloom. Head more reddish than testaceous; diameter behind the eyes much less than just in front of them, disc widest just in front of eyes and then sides slightly converging to an evenly obtuse, arcuate apex in the female, and a slightly more truncated one in the male; diameter across subapical teeth about four times the distance between that line and apex of head; juga as long as tylus with their tips not touching; edges in front of eyes somewhat sinu-concave, these edges and those of the juga finely and irregularly creno-serrulate, at least not smooth; apical tooth not con-

spicuous and tending to be blunt, not acutely angled. Edge of the bucculae deeply sinuate and ending anteriorly in an acute prominent tooth that meets the blunt, rounded ventral extension of the gena in an inconspicuous angle. *Basal three segments of antennae reddish, distal two much darker, almost piceous*; segments two to five subequal, at least none conspicuously longer or shorter than another. Median length of pronotum as long as that of head; diameter across humeri about one seventh greater than the median length; disc around the calli somewhat tumid in two raised areas leaving a shallow median rectilinear portion excavated; two lateral obscurely circular areas also excavated, these about equidistant from front and hind margins of pronotum but closer to lateral edge than median line; some scattered large piceous pits on pronotal disc, these forming, however, *no definite pattern*; *small punctures numerous and very evenly distributed* reaching the very bases of the marginal teeth. Marginal teeth seven to nine in number, *bluntly rounded, uniform in size, perceptibly flattened, never conical or terete*, sometimes with denticules at their bases; teeth either concolorous with disc of pronotum or paler, never darker; *teeth tend to point backwards*; humeri subtriangular with irregular small serrations becoming obsolete posteriorly. Propleuron with an arcuate sulcus just below the pronotal margin; *area around sulcus appreciably smooth and concolorous with remaining disc*; rest of propleuron and prosternum with scattered coarse fuscous or reddish fuscous punctures. *Elytra with numerous substellate points and blotches*, these impunctate and pale and evenly distributed over elytra. Scutellum with a *few widely scattered large punctures*, these concentrated at the basal angles to form two small corroded areas. Edges of the abdomen *explanate and extend well beyond the costal margin* of the elytra and in the female at least form an almost *orbicular outline* to the body; *lateral diameter across widest part of abdomen at least one sixth greater than width across humeri*; exposed edge of abdomen *not* brightly colored and *inconspicuously* alternated. Venter testaceous to reddish-fuscous with many punctures of various sizes scattered irregularly; sparsely clothed with an inconspicuous tomentum. Femora with maculations arranged in incomplete longitudinal vittae which terminate in a distal irregular piceous area which is broken medially by a rectilinear pale blotch; *tibiae distinctly reddish to reddish-fuscous and without annuli or maculations of any kind*; tibiae more slen-

der and more uniform in diameter than in related species; the sulcate face slightly darker than posterior surface; tarsi and claws fuscous. *Male genital cup with lateral wings conspicuously protruding ventrally and medially*, not laterally, into a pair of thickish, darker, rounded lobes, the dorsal surface of which is clothed with short soft hairs; exposed face (medial aspect) of dorsal ramus of claspers semicircular in outline and piceous in color, shining; proctiger broad and deep fuscous with a paler reddish median stripe. Membrane with veins strikingly fuscous on an obscurely milky-hyaline background. Basal valves of female plates somewhat convex, at least more so than in allied species; the distal valves not reaching the edge of the eighth tergite; median plate of valves broadly triangular with a concave posterior edge. Auricle of the metasternal canal elongated, tongue-shaped, narrowed at the base and several times as long as the external diameter of the orifice; the auricle has a partial spiral twist to it; the evaporating area and the crateriform region of the base of the orifice are not conspicuously different in color from the surrounding area.

Holotype: Female, White House Canyon, Santa Rita Mts., Santa Cruz Co., Ariz., 7/21/37 Coll. H. Ruckes deposited in American Museum of Natural History. Allotype: Male, Ditto in author's collection. Paratype: One female also in author's collection.

In one male specimen in the collection of the National Museum (U. S.) I have observed that the fore tibiae are not immaculate as stated in the above but are provided with an obscure and incomplete pale annulus near the knee.



Brochymena
lineata, n. sp.

Brochymena
dilata, n. sp.

B. dilata in appearance has the facies of *B. carolinensis* (West.) but has a much more explanate abdominal edge and much less prominent shoulder; the basal three antennal segments are much more reddish in *B. dilata* and contrast more with the two much darker distal ones; the exaporating area is not impressed in its metasternal disc as in *B. carolinensis* and the auricle of the orifice is several times larger than in that species; the marginal teeth of the pronotum are much more blunt and retrorse than in *B. carolinensis*. It is in the structure of the male genital cup that this species (*B. dilata*) is unique; no other species that I have examined has the lateral lobes protruding and dilated as in this one.

HISTER CILIATUS RECORDED FROM ARIZONA. (Coleoptera—Histeridae).

BY CHARLES A. BALLOU JR. AND CARL GEO. SIEPMANN.

Hister ciliatus was described by Lewis (1888—*Biologia Centrali Americana*, Coleoptera vol. 2, pt. 1, p. 199) from four specimens taken by Sallé in Guanajuato, Mexico. This seems to be the only published record of this species.

It is represented in our collection by 18 specimens collected by Mr. Howard E. Hinton at Tejupilco, D. F., Mexico, in July 1932, and 4 specimens collected by Mr. A. A. Nichol at Tucson, Arizona, January 12, 1928. The Arizona specimens are a new record for the United States.

Although the genus *Hister* is large, the species *ciliatus* is easily recognized. It is entirely black in color, and the sides of the prothorax are ciliate beneath. With the possible exception noted below, only one other North American species—*Hister laevipes*—possesses these two characters in combination. A number of species of *Hister* occur in North America with the sides of the prothorax ciliate beneath, but they have red and black elytra—these constitute the “group *arcuatus*” of Horn or the subgenus *Spilodiscus* of Lewis. The following brief diagnoses will serve both to identify and distinguish *ciliatus* and *laevipes*.

Hister laevipes Lec.

Thorax with inner lateral stria entire, outer lateral stria abbreviated behind, usually extending to about the middle, rarely almost as long as the inner stria. First three elytral striae entire, 4th very short, basal; 5th absent. Sutural stria